

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
9 December 2004 (09.12.2004)

PCT

(10) International Publication Number
WO 2004/106527 A1

(51) International Patent Classification⁷: **C12N 15/74**

(21) International Application Number:
PCT/EP2004/005936

(22) International Filing Date: **2 June 2004 (02.06.2004)**

(25) Filing Language: **English**

(26) Publication Language: **English**

(30) Priority Data:
03012552.0 2 June 2003 (02.06.2003) EP

(71) Applicant (for all designated States except US):
**B.R.A.I.N. BIOTECHNOLOGY RESEARCH AND
INFORMATION NETWORK AG [DE/DE]; Darm-
städter Strasse 34, 64673 Zwingenberg (DE).**

(72) Inventors; and

(75) Inventors/Applicants (for US only): **SCHLEPER,**

Christa [DE/DE]; Frankensteinerstrasse 155, 64297
Darmstadt (DE). JONUSCHEIT, Melanie [DE/DE];
Inselstrasse 29, 64287 Darmstadt (DE). ECK, Jür-
gen [DE/DE]; Jakobsweg 48, 64625 Bensheim (DE).
NIEHAUS, Frank [DE/DE]; Veilchenweg 5, 64646
Heppenheim (DE). ALBERS, Sonja-Verena [DE/NL];
Willem Dreesstraat 30, NL-9728 ST Groningen (NL).
FROELS, Sabrina [DE/DE]; Gabelsbergerstrasse 7,
63303 Dreieich (DE).

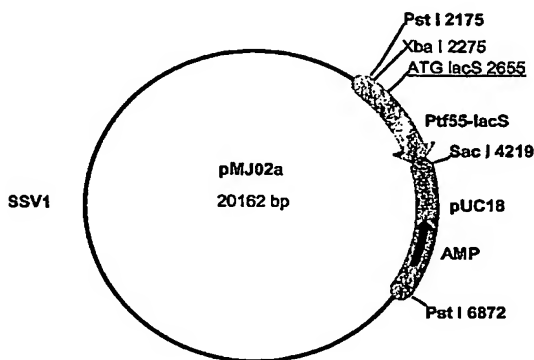
(74) Agent: **VOSSIUS & PARTNER; Siebertstrasse 4, 81675
München (DE).**

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,

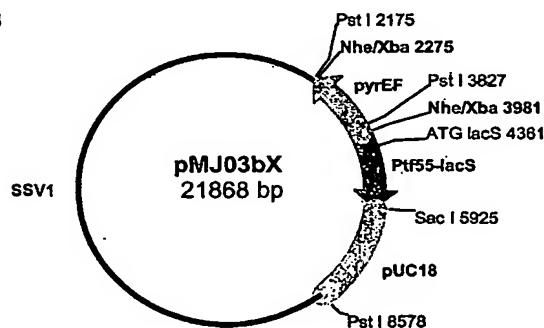
[Continued on next page]

(54) Title: **ARCHAEON EXPRESSION SYSTEM**

A



B



(57) Abstract: The present invention relates to a sulfolobus ex-
pression vector comprising: (a) sulfolobus origin of replication;
(b) the genes encoding the structural proteins and the site-spe-
cific integrase of SSVI, SSV2 or pSSVx, operatively linked to
expression control sequences and a packaging signal; (c) one or
more selectable marker gene(s), operatively linked to sulfolobus
expression control sequences; and (d) a sulfolobus promoter fol-
lowed 3' by a restriction enzyme recognition site or a multiple
cloning site for insertion of a gene of interest and optionally a
3' regulatory element. Moreover, the present invention relates
to a shuttle vector comprising the sequences of the expression
vector of the invention and additional sequences for propagation
and selection in E. coli, wherein the additional sequences com-
prise (a) an E.coli origin of replication; and (b) a marker for selection
in E.coli. Furthermore, the invention relates to host cells trans-
formed with the expression vector as well as to a kit comprising a
vector or a host cell of the present invention. Finally, the present
application also relates to a method for generating infectious sub-
viral particles.



PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.